Vol. IX. No. 7. July 15, 1912.

THE

PSYCHOLOGICAL BULLETIN

GENERAL REVIEWS AND SUMMARIES

VISUAL SPACE

BY PROFESSOR G. M. STRATTON

University of California

The tendency, in explaining our perception of depth, to make light of the peculiarly binocular factors continues as in the year preceding. Jaensch, in an elaborate work (7) which merits a fuller account than can here be given, dwells upon a number of facts which tell against the importance of retinal disparity. For him, attention, especially the changes and sweep of attention which go with certain eye-movements, are particularly emphasized, after recounting a range and variety of his own experimental findings. In several regions he discovers apparent shifts of depth with no change of the binocular situation. He brings his theory into connection with visual art by experiments on the perception of intervening illuminated media—colored fluids, and the like—and believes that the peculiar effects which are observable in momentary observation, especially the peculiar character of the attention-process then, help to explain the contributions of impressionistic painters. Not only is the mode of observing which such painters employ peculiarly successful in detecting "atmosphere," but it also brings in other influences which heighten the æsthetic effect. Finally he divides the truth which nativist and empiricist each claim entire, assigning a part to each.

Other experimenters continue this process of subtracting from the supposed binocular influence. Schubotz (17) repeating Hillebrand's "Allee" experiment finds, as did Hillebrand, a curvature in the line of objects which apparently form straight rows of receding equal lateral extents; the direction of the curvature, however, sometimes

departs from that found by Hillebrand. He then simplified Hillebrand's procedure, by arranging receding objects into a single row, instead of double rows, apparently straight, and having them not simply to left and to right, but also above and below the line of sight. He finds curvature in all these cases; in the vertical plane, where binocular parallax does not hold, as well as in the horizontal direction where it does. Hillebrand's insistence here upon the importance of binocular parallax is therefore unwarranted. Especially important is the fact that actual curvature occurs in these apparently straight lines with not only binocular, but also with monocular observation, when Hillebrand's factor is absent. Such curvature, he holds, is an original property of visual space. He experimented also upon the "stereoscopic zone"—that is, the range, fore and aft, of a given fixation point, within which there is noticeable plastic effect without double-images; upon the over-estimation of verticals, finding a difference in its amount according as the line is observed with one or with two eyes—a result which does not exactly tally with that since reported by Valentine.[1] This overestimation also he regards as an original property of visual space.

Poppelreuter, in a briefer (14) and a longer (15) report upon the same topic, likewise attacks Hillebrand's conclusions from the "Allee" experiment. He repeats the experiment, with various modifications, finding that the arrangement which produces the effect of equal amounts of increase of depth is actually neither a series of equal binocular disparities nor of equal differences of visual angle, but a series approximately one of arithmetical differences. The "Allee" curve is very irregular, especially as it approaches the observer. The arrangement arrived at monocularly differs but slightly from that reached binocularly—thus agreeing with the findings of Schubotz, as above. Binocular parallax therefore, as against Hillebrand, cannot be the decisive factor in such depth arrangements; it but intensifies and makes more impressive and stable the relief-effect already present in monocular vision. For unless "empirical" factors for the production of relief are present abundantly, monocular depth tends to fade out, especially with inattention, and repetition. Poppelreuter, besides arguing against Hillebrand, opposes Hering's contention that there is a specific depth sensation. Hering's theory of depth, in so far as it attributes importance to a physiological mechanism, he believes to be sound for the apparent *direction* of depth changes, but not for their apparent *amount*. In an appendix

[1] *Brit. J. of Psychol.*, 1912, 5, 8–35.

to his article, Poppelreuter describes several pieces of apparatus for the study of visual space.

Mampell's dissertation (9), which is wholly theoretical and does not appear to have taken any sufficient account of the literature of the subject, surveys various theories of visual space, concluding that extension, depth, and direction are directly given as sensuous properties of the visual impression. The precise localization of the impression as regards distance, whether monocular or binocular, is determined by experience. Monnet (10) presents with true Gallic clearness certain matters of depth-perception that have long been common property.

The depth-effect of ordinary single photographs is considerably heightened, according to Ponzo, by a device which he describes (13). His is a very simply apparatus by which the light from the photograph is twice passed through a convex lens and is reflected in a mirror before coming to the observer's eyes. The disturbance due to the surface of the photograph itself is thus doubly reduced, and a vivid plastic effect is said to result both for binocular and monocular vision. Pigeon (11) describes a stereoscope so constructed that the picture for the one eye can be shifted vertically and for the other eye horizontally,—a device applicable not only to the study of binocular vision, but to the treatment of various abnormalities of the external optic muscles. Special devices add to its value for the medico-legal examination of disturbances of vision, real or simulated. Chaveau (3) likewise deals with stereoscopic vision, seemingly having rediscovered the fact of retinal rivalry. The dominance of the image in the one eye over that in the other is aided by unsymmetrical images, by difference of acuity, and differences of brightness and distinctness in the opposing images.

The changes of apparent depth in the well-known figures of ambiguous perspective is studied by Benussi (2). With catholic temper he accepts the entire list of factors urged in rival theories of these phenomena—the importance of changes of the point of ocular fixation, of the direction of attention, of the readiness of certain ideas to arise, of the different relation of the figure to the surface upon which it might rest. Each and all of these, he believes, play a part. His experimental contribution is chronometric: he timed the appearance of the perspective with different positions of a given figure; and found the proportion of successes and failures in arriving at any perspective when the exposure-time is reduced. He finds that the time between the beginning of the exposure and the rise of perspective-

effect is about three times as great when the position of the drawing is such as to prevent a normal rest and stability of the object. For each position of the drawing there is a preferred perspective. The reduction of the exposure-time reduces the number of cases where perspective appears. Repetition does not regularly reduce the time of appearance of the perspective—a fact which Benussi, I think unwarrantably, believes should make us cautious in explaining here by empirical and associational factors. The stages by which the perspective arises are, according to Benussi, these: the sensory impressions from line and ground are first worked up mentally into a two-dimensional form; and only upon this form as a basis, and not directly upon the impressions themselves, does the plastic effect arise.

Passing now to a group of articles dealing with the perception and the after-effect of motion, Dufour (4, 5, 6) describes an apparatus for the study of the after-effect of visual movement—an apparatus in principle such as has long been familiar in this country. For Plateau's spiral he substitutes a belt-surface with alternate parallel stripes of black and white set at a right-angle to the direction of motion. He finds transfer of after-effect from stimulated and unstimulated eye—a finding which he seems not to be aware had long ago been noted by other observers—even with motions of translation (instead of rotation), for which alone he claims his observations to be novel. Basler (1) measures the interval between the close of the motion which serves as visual stimulus and the beginning of the after-motion in vision, and finds it to be 0.5–0.8 sec. This interval does not seem to be affected either by the speed, the direction, or the intensity of the stimulating movement. Stratton (18) finds that rapid motion in vision, if it is to be perceived as motion, must occupy a time that is approximately the same as that of the least succession which we can notice; and this fact, conjoined with his earlier finding that the least extent within which motion is observable is approximately the same as the just-noticeable difference of visual points in space, takes away all ground for supposing that the visual experience of motion is something unique and elemental and independent of our experience of space and of time.

Regnault (16) notes a number of widespread divergences between the representation of movement visually and the form of the actual movement as revealed by instantaneous photography. From the art of the Bushmen to that of the Greek sculptors there are certain universal exaggerations of the spread of the legs in running, the rise of the body above the ground, as well as in certain "dyschronisms,"

i. e., where—as in the discus thrower, and in the representation of the running of animals and of men—phases of movement actually distinct in time are seen and represented as though simultaneous. Ponzo (12), observing "motion-pictures," has noted a number of interesting fusions from sources outside of vision—as when he seems to *hear* the visible water-fall or carriage, *smell* the new-mown hay, or *feel the coolness* of the sea. Usually he is able to find something in the actual impressions from these non-visual senses that give a sensory basis for the fusion—impressions that would be quite unnoticed if they did not happen to fit into the total visual object. But such fusions occur for him only when he does not *aim* to observe them; when he is off his guard.

Evidence is tellingly arrayed by McDougall (8), in a mass and detail impossible here to reproduce, that corresponding retinal points are not connected with a common cortical center; at the central parts immediately connected with consciousness the paths taken by the excitation from corresponding points are anatomically distinct. Yet there is an intimate functional relation—now a reciprocal inhibition and now a reciprocal reinforcement of the processes arising from such points. The anatomical separation of the centers, McDougall feels, works against Hering's theory of color, and in favor of the Young-Helmholtz theory. An interesting though incidental feature of the paper is McDougall's adoption of the idea that instead of looking for a special cause of *fusion* in things mental, fusion is the fundamental and inevitable process and to be taken for granted wherever there is no special cause working for discrimination. The impressions from points in the two eyes, therefore, must always be seen singly unless there be a special motive for distinguishing them—either a different quality or a different motor tendency in the two impressions.

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AUDITORY SPACE

BY PROFESSOR DANIEL STARCH
University of Wisconsin

Very little work has been done on auditory space during the past year. M. Truschel (**2**) briefly reports some experiments to determine the factors concerned in detecting the presence of objects by the blind. The head of a blind subject was shielded in various ways while a piece of cardboard suspended from the end of a stick was moved about and placed in various positions to see how accurately the subject could detect its presence and location. M. Truschel concludes that the chief factor is the localization of the noises reflected from the objects and that odor, air currents, and temperature stimuli are entirely secondary.

M. Pouget's (**1**) article has only very indirect bearing on auditory space. He describes a test employed in Prof. Siebenmann's clinic

in Basel for measuring auditory acuity. It is the well known method of comparing the length of time that a tuning fork can be heard by a normal ear and by the ear to be tested. This method has been found satisfactory for diagnostic purposes.

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TACTUAL AND KINÆSTHETIC SPACE

BY ROSWELL P. ANGIER
Yale University

Cook and v. Frey (**2**) studied the influence of the intensity of stimulation on the values of simultaneous spatial thresholds of the skin, using, as the area of stimulation, the volar surface of the left forearm. Two sorts of apparatus were employed, by means of which stimuli of graded intensities and limiting different extents on the skin could simultaneously be applied under admirably uniform conditions. Between any two applications of stimuli there was usually an interval of 30 seconds. It was found that the spatial discrimination of two intenser stimuli was consistently easier than that of two weaker, and this with a range of stimulation from just perceptible to nearly painful intensities. The forearm threshold sank, indeed, to 2 cm. or less with intenser and rose to 6 cm. or more with weaker stimuli. Exceedingly important, however, for exact results, was a preliminary subjective equation of the sensations from the points stimulated, an equation that had occasionally to be repeated during the course of the experiments. Under the most favorable conditions attainable (intense stimuli subjectively equated on pressure points mediating similar sense-qualities), the absolute values of the simultaneous two-point threshold varied, with four subjects, from 1.5 to 3.0 cm. With unequal intensities of the two stimulations the threshold became greater, rising even to 8 cm. This influence of unequal intensities comes out with great clearness if two unequal extents, determined by three limiting points in a straight line, are compared; if points 1 and 2 limit the shorter extent, and points 2 and 3 the longer, an increase of the intensity of point 3 will make extent 2–3, even if objectively twice

as long as 1–2, seem the shorter. It appears, indeed, that two simultaneously given stimuli exert, in a spatial sense, an attraction effect on each other, for a comparison of extents occurs with greater certainty if given successively (1 sec. interval). The attraction is a function of intensity in the sense that the point less intensely stimulated appears displaced towards that more strongly stimulated.

Chinagli (1) discovered that if a circle of wood or other material, 5 mm. thick, and with any diameter smaller than 35 mm., is placed on the skin—preferably of the forehead—it is felt as a filled disc. Similarly with triangles, squares, etc. Furthermore, if a point within the circle was touched, verbal localization placed it outside the circle, but pointing localization within the circle.

Ponzo (3) gives a summary of articles by him already published in the *Memorie dell'Accad. delle Scienze di Torino*, serie 2, t. LX., 1909, and t. LXI., 1910, on the localization of tactual and pain sensations on the skin. Twenty-five different areas of the body were examined, in each of which ten specially sensitive points were marked and tactually stimulated with v. Frey's æsthesiometer. After each stimulation the subject pointed with a rod to the point stimulated, the extent and the direction of error being recorded. The error of direction was determined with reference to a constant axis. For pain Kiesow's æsthesiometer was used. It was found that the errors differed in both size and direction in the various areas, but were fairly constant for a given area. There was no stable relation between threshold-value and accuracy of localization, nor any decrease in accuracy with lower intensities of stimulation. Maximal accuracy appeared on the tip of the tongue, the cushion of the index finger and the middle of the lower lip; minimal accuracy in the costal region. The extent of the tactual errors corresponded well with those given by Weber. The accuracy of localization of painful stimuli proved to be as great as that for tactual. Finally, the results showed that for all the regions investigated most of the errors, as well as the greatest mean errors, were in the longitudinal direction.

Ponzo also reports two new instruments for cutaneous investigation. One (4 and 5) is a simple arrangement for investigating simultaneous spatial thresholds. It secures, particularly, quick variation or equalization of pressures and involves a device for registering any time differences in the applications of the two stimuli. With it the author secured average differences of less than 3 sigma.

The other apparatus (6 and 7) is likewise simple and is designed to secure rapid measurement of the extent and direction of errors in the localization of cutaneous sensations.

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SPACE ILLUSIONS

BY PROFESSOR HARVEY CARR

University of Chicago

Ponzo in his two papers (5, 6) gives a restatement of some facts and apparatus which he has previously published in other journals, and which were reviewed in last year's report. Schmidt (7) gives a translation and commentary of a lately discovered Latin manuscript of Kant which consists mainly of notes, partly disconnected, used in a disputation. His various arguments, possessing but little psychological interest, are directed against the thesis of his opponent that the sense illusions and the dominance of the perceptual furnish the clue for the interpretation of much in the literature of early peoples.

Benussi's work (1) on solidity reversals of ambiguous figures was instigated by that of Becher and de Boer reported last year. The time of cognition reactions for the perception of solidity was taken for one observer for four positions of a cube. One type of solidity prevailed for each position. The reaction times varied greatly for the four positions. Practice decreased the times but in an irregular manner. Tachistoscopic exposures with many subjects for two intervals demonstrated that the frequency of the solidity perception

was related to the length of the exposure, though generalizations are regarded as unsafe because of the presence of after-images. The most important facts are those derived from introspective observations: Sides differ in apparent size as well as apparent depth, though there is no correlation between the two, as reversals in depth occurred without any change in relative size. The solidity often appears to have a reference to a vertical plane as its base and not to a horizontal plane. Lines non-essential to solidity were often unnoticed. The eye movement and fixation hypotheses are discarded; motives of "Bodenständigkeit" are not always available; reproductive processes are not the exclusive factor, as practice does not decrease the reaction times regularly. Certain arrangements of plane lines are associated with a definite type of solidity, and reversals are due to the fluctuating dominance of these plane patterns.

Hofmann (**2**) in studying the relation between the apparent directions of the horizontal and vertical noted that he invariably gave them both an anti-clockwise twist from their true positions. He normally holds his head inclined to the right and his tests indicate that this head inclination is due to an asymmetrical ocular tension, and that this tension is responsible for the deviation of the apparent direction of the two lines.

The article of Piéron (**4**) consists mainly of an excellent digest of the literature on the Müller-Lyer illusion. His tests are supplementary to previous experimentation. He maintains that the illusion is based upon a double mechanism, *i. e.*, two theories are applicable. In momentary exposures, estimation is inaccurate and the illusion persists with practice; these facts are explicable in terms of the Einthoven conception. With prolonged exposure, eye movements are regarded as the effective factor.

Tichý (**9**) worked with the Poggendorff illusion on eight subjects using a variety of methods. His results disagree with Wundt's statement that a reversal of the illusion occurs for the horizontal position when the intervening space is composed of a series of vertical lines. He found that the "continuation line" is invariably located in the direction of the obtuse angle. There is not even a diminution of the illusion for the horizontal position. The illusion does not depend upon binocular vision, freedom or fixity of fixation, knowledge or ignorance. Its size varies directly with the size of the intervening space and inversely with the size of the angle. The facts lead him to reject the Wundtian motives and to accept an explanation in terms of a tendency of the eyes to cross the intervening space by as short a line as possible.

Lewis (3) and Valentine (10) continue the Cambridge work with the tachistoscopic projection method. Valentine attacks the theories of Lipps and Külpe as to the vertical-horizontal illusion. The indefiniteness of the Lippsian concept does not render it subject to conclusive experimental disproof and the author does not regard his tests as final. In opposition to the theory of Külpe that the contour of the visual field produces the illusion by contrast, he finds that the value of the illusion is greater for monocular vision where there is less disparity between the vertical and horizontal diameters of the visual field. Significant facts noted are: Practice increased the illusion with three subjects; the value of the illusion differs for the two eyes; and there is some indication that a maximum value is correlated with a definite length of line. No theory is advanced. Lewis worked with filled and unfilled visual extents and found: The illusion is largest with momentary exposure; its size does not vary directly with the length of the line; there is a maximal effect with a certain degree of filling; prolonged exposure and a minimum of filling produce underestimation; prolonged exposure and unsymmetrical filling diminish the illusion; and practice destroys the effect very quickly. The effective factors are thus duration of exposure, practice, amount and arrangement and nature of the filling. The Wundtian, Hering and all physiological theories are discarded and an appeal is made to the judgmental aspect of perception.

Schubotz (8) seems to be mainly interested in a comparison of monocular and binocular space. He has constructed a very complicated and interesting apparatus which will not allow of a brief description. He deals with four problems. (1) In the vertical-horizontal illusion as exemplified in the square, he finds no correlation between its size and the distance from the observer with varying convergence. With fixation beyond the square, overestimation increases with decrease of depth. Its size varies somewhat directly with the size of the square. There was no maximum value as found by Valentine. He agrees with Valentine that monocular vision gives the largest illusion. (2) By a transparent mirror he superimposed extents monocularly perceived upon those binocularly seen. There was no difference with prolonged exposure. With some conditions of observation, a slight binocular underestimation was correlated with a nearer depth location. (3) He determined the form of apparent straight lines extending in the third dimensional direction. Such apparent straight lines are really straight when located at the height of the eyes. Lines above and below the eyes are curved in the middle

down and up respectively. The construction of two such lines makes the curvature greater and opposite to that which would occur for one line. The results are similar with monocular vision. (4) He attempted to determine the scope or range of binocular unitary vision. The near range is less than the far range. The lateral and the depth ranges are intimately connected. The depth range is greater for points adjacent to the median line; it is increased by a multiplicity of objects in the field, and decreased when the fixation is lateral to the median plane.

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VALUES

BY PROFESSOR WILBUR M. URBAN

Trinity College

The history of Value-theory for 1911 is to be found more in its enrichment of other fields of inquiry than in any noteworthy additions to the psychological and technical side of the subject. The "trail" leads one to chapters on the Consciousness of Value in books on religion (7), to studies of the psychology of value in books on economics (1) and indeed, as will appear, to strictly philosophical treatises themselves. As a preliminary to this review, however, the pronouncement of that veteran of the subject, Meinong (10), on

fundamental questions, deserves the first place. Prepared by special invitation of the ethical section of the Bologna Congress for 1911, this discussion of the vexed question of psychology and "Psychologismus" in the theory of value justifies in every way his colleagues' expectations of authoritative treatment. His survey of the situation results in the conclusion that "the psychological study of values which has hitherto not been without results, must continue to go its way untroubled." "Zu fehlerhaften Psychologismus würde solche Psychologie aber werden, wenn man sich um ihretwillen der Anerkennung und Würdigung der Thatsachen unpersönlichen Wertes überheben zu dürfen meinte."

Of the many fruitful contacts of the subject with the social sciences two may be noted here. Durkheim's paper (4) also read before the Bologna Congress, and which, we are told, made a profound impression, explicitly defines sociology as a science of values, attempting to show how it may make values its subject-matter and yet remain a science, how it may conceive them as the products of social life without treating them as merely natural phenomena. As an attempt to deal with very delicate questions, to avoid the difficulties both of naturalism and transcendentalism, and to make values the objects of description without robbing them of their character as values and ideals, the paper deserves close attention.

Anderson's book, favorably received in many quarters, seeks a reconstruction of economic theory in the light of an adequate concept of "social value." Criticizing the "faulty presuppositions" of economic theory, "avowed or implicit," he attempts "to reconstruct them in the light of later epistemological, psychological and sociological doctrine." In this development of "a truly organic doctrine of social value" he makes extended use of the psychological studies of Meinong, Tarde and Urban, and is influenced throughout by the epistemological conceptions of Dewey. He concludes that "value is a quantity, socially valid, not logically dependent upon exchange, but prior to it." "The determinants of value include not only the highly abstract factors that the value theories criticized have undertaken to handle arithmetically, but also all the other volitional factors in the inter-mental life of men in society." Above all, he stresses the "presuppositions" of economic value, ethical and legal.

In his study of James's Religious Philosophy, K. A. Busch says: "One thing he as well as others has brought to light: the final philosophy must be a theory of value." Again in reporting the Bologna Congress for the *Revue Philosophique*, M. Rey tells us that, as the

Heidelberg Congress had been preoccupied with pragmatism, so that of 1911 was concerned primarily with the problem of values, in the domains of science, religion, art, and morals. The former statement may be but an *obiter dictum*, as the latter is, perhaps an exaggeration; yet it is in this spirit that many are working. As indicative of the interest in these problems one may note such papers as those of Maugé (9) and Gillett (5). In Germany, two books by Lüdemann (8) and Pfordten (12) also continue the discussion of the fundamental epistemological and philosophical value-problems. The first, by a professor of theology, is an acute polemic against any deduction of existential from value-judgments, and is valuable for its critical account of the use of value-judgments in both philosophy and theology. The second breathes the spirit of the so-called Freiburg school, but is distinguished in an interesting fashion by a realistic activistic note. Conceptual constructions have normative value when they permit of "ein Wirken auf ein Werden."

Whether or not a final philosophy *must* be a theory of value, recent developments seem to indicate that the value-concept is at least a temporary preoccupation. The discussions between Mr. J. E. Russell and Mr. Quick (13, 16, 17) if they have not settled the question of the priority of truth or value, have at least shown that value so dogs the steps of truth as to be inseparable from it. This form of the "ego-centric predicament," if it be such, is likely to continue to give trouble. Significant from this point of view are Bosanquet's Gifford Lectures for 1911 (3). A distinct attempt to rewrite absolute idealism from the point of view of value, it is not surprising that, for its author, "logic is the spirit of value." Notable for the proof it gives of how the permanent insights of this way of thinking may be illuminated and clarified by the value-concept, the unfortunate results of an apparent disdain of the technical discussions of the subject are evident. The most unsatisfactory part of the book is the discussion of the value-concept itself in Chapter VII. As a contribution to this rewriting of idealism, Rubenstein's paper (15) is also worth noting.

It has been charged that "every idealistic theory of the world has as its ultimate premise an unsupported judgment of value." This is no less true of realism. The last chapter of Perry's new book (11), a chapter entitled "A Realistic Theory of Life," is at least an explicit recognition of this, realism's most pressing, problem. If it is the least satisfactory chapter of an interesting book, it is still sufficient to show how far the "new realism" is from any adequate solution of its problem.

Fully one third of Baldwin's new book (**2**) is taken up with what may be called the "logic of valuation." For him, value represents a distinct and specific mediation of the real, to be put side by side with the mediation of thought and logic. "Both are vital approaches to the real, since each is an essential movement in the commerce of thought with things." It is only, he holds, by a complete understanding of both these types, with their presuppositions and immanent conditions, that we reach a higher immediacy that includes them both—for him the æsthetic. A somewhat similar view, arrived at also by an analysis of valuation, is presented by H. M. Kallen in a recent article (**6**).

That the present realistic-idealistic *impasse* in philosophy is to be broken through only by becoming more and more conscious of the unsupported value presuppositions of both, is becoming more and more clear. The important paper of Rickert (**14**) is doubtless no final solution of the problem, but it is at least suggestive in its insistence that the true boundary line (in contrast to the various oppositions in philosophy, of which the idealistic-realistic is perhaps the most pronounced) does not run *within existence*, between the subjective and objective halves of reality, but between the total existence, whether subjective or objective, and that sphere that lies beyond them both, that is the sphere of values."

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PSYCHOLOGY OF TESTIMONY AND REPORT

BY PROFESSOR GUY MONTROSE WHIPPLE
Cornell University

The most ambitious and important contribution to the psychology of testimony, or—to speak psychologically rather than in the language of jurisprudence—to the psychology of report, is the work of the Commission of the Institute for Applied Psychology for the Investigation of Pedagogical Problems of the Psychology of Report. The members, ten in number, including such well-known writers as Meumann, Stern, Lipmann, and Gross, planned to study the educability of report, to determine whether testimony could be improved by training and to such an extent as to make it worth while, and they determined also to use only events as test-objects, rather than to cling longer to the picture-tests and mere verbal tests of the pioneer experiments. Five studies of educability had already been made and some 15 studies had used events as test-materials, but no previous study had combined these two features.

The Commission decided to employ physical demonstrations as test-material, because these demonstrations can be repeated with exactness, are familiar in nature to school children and command their fullest attention. After elaborate preliminary trials, three apparatuses were selected and with each three demonstrations were made. The apparatuses were (1) a tank of CO_2, stored under pressure in fluid form, (2) an air-pump, and (3) a rotation apparatus. With the last-named, to take but one piece, the three demonstrations were (*a*) the effect of centrifugal force upon a vessel of water, (*b*) the flattening of elastic circular rings under rotation, and (*c*) color-mixture. The details of all nine demonstrations are chronicled minutely and illustrated by numerous photographs.

The observers were 196 girls, aged 12 to 13 years.

In order to bring about a possible effect of training, each observer witnessed all three experiments (9 demonstrations) given at intervals of one week, and after each experiment its three demonstrations were immediately repeated and the observer corrected his written report. The report itself was made by filling out a printed form in which was included (for each experiment of three demonstrations) a series of 12 questions. These questions were so arranged as to be substantially equivalent from the one experiment to the next. They were also classified into seven categories, according as they referred to events, to the statements of the demonstrator, to duration, to sequence, to localization, to color, and to dimensions. For example: "What happened when I opened the stop-cock?" "What did I say when I fastened the rubber tube to the iron tank?" "What color was the rubber tube?" etc. The original report was made in ink. The revisions (following the repetition of the experiment) were made on the same form but in pencil. The article by Baade (1) deals with the results for the questions on the words of the demonstrator only, that of Lipmann (4) with those on color, sequence and localization only. The results for the other categories will appear later.

The net results of the experiment, so far as testimony on verbal features was concerned, was that no demonstrable improvement appeared, either as a result of the repetition of each experiment or as the result of the succession of the three experiments. The earlier experiments did exert a strong influence upon the subsequent experiments, but this influence was sometimes favorable and sometimes unfavorable. Baade has, however, done excellent work in elaborating a system of scoring which promises to afford an exactness in dealing with "logical memory tests" as great as that now enjoyed in dealing with "rote memory" tests.

Lipmann, in scoring the estimates of duration and size, has also devised methods of scoring data which, though too complex to be reproduced here, will be of assistance to those who work in this field. The data show that there is, on the whole, some improvement in these estimates as the result of the successive experiments, but only a very slight improvement as the result of repetition of experiments. In general, durations (8″ to 3.5′) are strongly overestimated, while extents (19 to 57 cm.) are commonly underestimated. There appeared no positive training-effect in reports on colors, locations and sequences, but the repetitions did bring about a decided improvement in these answers. As a rule, a pupil who displayed much inaccuracy

in his original report also displayed relatively much inaccuracy in his "corrected" report.

So far as reported, therefore, these elaborate and painstaking experiments yield a negative result, and will be chiefly valuable in clearing the way for further studies of the training of observation and memory, in which more potent and vigorous influences are brought into play to effect the improvement.

A second experimental study of the educability of report is presented in the work of Franken (**2**), who employed what he terms the "*Methode der Entscheidungs- und Bestimmungsfragen.*" One hundred questions, drawn from school work, were propounded to 150 pupils, aged 11 to 12.5 years. Each question was given first in a form to be answered by "yes" or "no." ("Do you know what city is the capital of Norway?") After 50 such questions, the series was repeated in a form that demanded a specific answer. ("What city is the capital of Norway?") At this point the pupils of one section checked up their answers; those of the second section were simply told that the next set of questions would be given in both forms. All the pupils then answered a second lot of 50 questions in both forms. Comparison of the answers in the first and second form, in the first and second half of the test, and in the first and second sections then permits conclusions as to the effects of training. Seven coefficients of report are devised and formulas are worked out for each of them. The net result is an improvement in cautiousness in asserting positive knowledge, though answers of "yes" followed by no-answer or by a false answer still persist. The method is of obvious interest and usefulness.[1]

Lipmann (**5**) is convinced that the unreliability of reports of children is due in the main to two things: first, the child does not distribute his attention in the same way as the adult (though his attention is usually well enough concentrated on those details that he does report); secondly, the child is uncritical in filling out gaps in his memory and uses freely material supplied through custom, through his own imagination or through suggestion. It follows that the training of the child in correct report must transform his distribution of attention to one corresponding to that of the adult and must develop a critical attitude toward misstatements in filling out gaps.

Miss Oppenheim (**6**) has extended the "rumor-test" of Stern, Michel, and Kulischer by using two anecdotes, given in immediate

[1] This article will be reviewed somewhat more fully in an early number of the *Journal of Educational Psychology*.

succession, with the idea of obtaining conditions more akin to those of daily life, particularly of determining whether details of the one story get confused with those of the other. Each story was transmitted through five observers, adult women. The results show strikingly how, even in so few stages as this, rumor becomes extraordinarily unreliable. There is, in general, a progressive abbreviation of the anecdotes; the story becomes less definite and more general in phrasing; each report deviates in two or three points from the preceding; the errors are confusions, substitutions, alterations of temporal and spatial setting; names and dates suffer particularly.

Schramm (**8**) compared 16 men and 16 women students at Freiburg University by the aid of Stern's test-story. It was read once to them and reported 24 hours later. This is virtually a test of "logical memory." The author concludes that the data point toward a slight superiority of the women, but the reviewer does not find that the differences exceed the probable error of the results.

Virtually identical is the method followed by Vos (**12**), who read a 40-element story to boys and girls 9 to 14 years old, and obtained reproductions three days later. From his 800 reports he draws these inferences: report is very good at the age of 9, best at 10, then deteriorates decidedly to 13, but improves at 14. Boys surpass girls, both in narrative and deposition, save that boys are less cautious when ignorant (more liable to give false answers than no answers). Boys are at their worst at 13, girls at 9 and 12. Pupils from the better class of homes do better than those from the poorer districts. There are more errors in the deposition than in the narrative, even though no suggestive questions are asked. The test hinges chiefly on auditory-verbal memory.

The work of Heindl, Reichel and Varendonck bears more directly on the application of the psychology of testimony to jurisprudence. Heindl (**3**) sought to measure quantitatively the amount of error in signaletic reports. He used mass tests and talks almost entirely in terms of averages. His method of computation is open to improvement, as Lipmann points out, and despite the extraordinary mass of data obtained (20,000 reports and 80,000 computations), it is questionable whether he has derived the practical conclusions that he sought. In brief, his method was this: observers stated or estimated the stature, age, color of hair and form of face, either of a stranger who appeared conspicuously before them for four minutes or of a well-known person not present during the reporting. Heindl concludes, among other things, that children are perfectly good observers,

perhaps more objective than adults, but cannot translate their observation into report skillfully. Sample conclusions are: children overstimate the stature of a strange man by 12 cm., of a strange woman by 5.7 cm., of well-known persons by 5.6 cm., etc.

Reichel (7) is a jurist, who writes to impress other jurists with the need of acquaintance with the psychology of testimony. He presents a good account of the present status of forensic psychology, shows in concrete cases how lack of psychological insight may affect the administration of justice, and proposes plans for the study of forensic psychology at universities.

The contribution of Varendonck (11) appeals to jurists, psychologists and educators alike. He was one of several psychologists summoned by the defense at a murder trial in Belgium to give expert testimony concerning the reliability of the testimony of two girls, 8 and 10 years old, whose declarations seemed likely to secure a conviction. Varendonck analyzed the records of the preliminary hearings, reviewed the history of the psychology of testimony, and conducted a half-dozen striking experiments upon school children to demonstrate the unreliability of their reports when implicative and expectative questions are employed. The presentation of his testimony elicited violent outbursts from the court authorities, but it reached the jury and induced a verdict of "not guilty." The psychology of testimony has, therefore, found its way formally into the court room and saved a man's life.[1]

The literature upon the psychology of testimony was assembled by Stern (9) in 1909 for the period prior to 1908. The same writer has now published a bibliography (10) of 53 titles covering the period 1908 to 1910.

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[1] For details the reader is referred to the *Journal of Criminal Law and Criminology*, in an early issue of which the reviewer will present a more elaborate analysis of the testimony of these children and of Varendonck's experiments.

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SUGGESTION

BY PROFESSOR WALTER DILL SCOTT
Northwestern University

Chojecki (1) carried on a series of experiments on suggestion in the University of Geneva, using as subjects thirty men and thirty women of the university. His tests were three in number: The heat illusion; the Binet test on suggested increase in the length of a series of lines; and increased and decreased tactual sensitivity produced by a magnet. There was found a very low degree of correlation between the suggestibility as discovered by the different tests. In this particular Chojecki verified the results of all investigators of recent years. His results differ from his predecessors in that he found more men suggestible than women. If this result should be verified by later researches we shall be compelled to cast aside the time-honored tradition that women are more suggestible than men.

Of a book of 350 pages Jacoby (2) devotes almost 200 pages to a presentation of suggestion. He discriminates between suggestion and such other related mental phenomena as auto-suggestion and association of ideas. The discussion is unusually sane and scientific for a presentation of this particular subject and is one intended for the general public.

MacDougall (6) applies the term "contrary suggestion" to a group of reactions that could not be wisely designated by any other single term. The following quotations present in brief MacDougall's conception of suggestion, contrary suggestion and the part the two

play in the development of the individual mind. "The first and more elementary form is that of slavish imitation, in which the suggestion is uncritically received and put into execution. It represents the primary and immediate reaction upon a stimulus which at the moment dominates consciousness. In such a case the mind of the imitator is narrow and meager, since the suggestion is either uncomplicated by any system of associated ideas, or by such only as are, in an elementary sense, congruous with it. It is the type of reaction which we call unreflective or precipitate. To have become characteristic of an individual marks him as deficient in all forms of intellectual freedom and independence" (pp. 384–385). "The second form of defect is manifested in an obstinate opposition to what has been suggested. It represents the second stage in development, in which the idea offered to the mind arouses a counter-idea which takes exclusive possession of the consciousness. The outcome, in so far as the psychological nature of the reaction is concerned, is thus equally elementary with that of slavish imitation" (p. 385). "Contrary suggestion represents the method by which the child naturally passes from an uncritical acceptance of suggestions and their immediate embodiment in action, to a reflective consideration of the respective values of two alternative courses when offered for selection, and finally to deliberate action and reasoned reflection in all their forms" (p. 377). The discussion is not confined to the place of counter-suggestion as a phase in the development of the mind of the individual, but a very satisfactory discussion is given of the place of counter suggestion in the social activities of the individual.

In his later treatises (4, 5) Jones merely reaffirms propositions laid down in his larger contribution (3). He defines suggestion so broadly that it includes practically all conscious and "unconscious" cognitive and affective processes (pp. 218, 219). Such a definition finds justification historically in a few eminent English psychologists. Thomas Brown, for instance, used suggestion in this broad way, although he did not include under it unconscious processes. Instead of using the term in this broad way throughout his discussion, Jones actually employs it with a narrow and unusual signification. The usage is so extraordinary that it reminds one of the manner in which Thomas Reid used the term suggestion to signify magic. Jones uses the term to express the transference of an affective attitude (usually sexual) to an object (usually the physician) other than that which originally stimulated that particular attitude (pp. 224, 249). If the term suggestion were properly restricted to this narrow sense and

identified with transference of an emotional attitude (usually unconscious), then Jones would be justified in attacking those who assert that the results secured by psychotherapy are secured by a process of reëducation in which suggestion is the principle or exclusive method. However, to identify suggestion with transference is to go counter to the historical and ordinary usage of the term.

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PSYCHOTHERAPY

BY DR. HARRY MILES JOHNSON
The Johns Hopkins University

The number of recent articles which may be grouped under this caption is large; the proportion which contain matter of especial psychological interest is small.

Cutten (6) and Bruce have written for the general reader on methods in psychotherapy. The attempt of the former is the more ambitious. He includes in his discussion primitive methods which obtained in different nations; some "healing miracles" of the early Christian church; a defense of the character of Mesmer; an enumeration of cases of healing by relics, visits to shrines, the royal touch, etc. There are interesting passages on Schlatter, the Christian Science movement and the Emmanuel movements, although there is little in the discussion which is new or of unusual importance. The method of treatment is expository throughout. The whole argument is rather disconnected, but the work, in the opinion of the reviewer, is of considerable value as a reference-volume.[1] Bruce's work (4) is a collection of eight popular essays. Its purpose is at least frankly stated: To inform the reader that there are psychotherapeutical

[1] See special review in this journal, 1911, 8, 259.

methods in practical use other and better than those used by Christian Scientists and similar practitioners. Although the author hopes that scientific as well as general readers may find the work valuable, the treatment is really quite superficial. Some very commonplace incidents and doctrines are embellished after the style of a descriptive novel. The opening essay is on the evolution of mental healing, and is an enumeration of theories ancient and modern. In the chapter entitled Masters of Mind, the author, himself a layman, unhesitatingly selects four men for eulogy as the "world's greatest psychopathologists." There are chapters on hypnotism and on secondary selves. We are told that suggestion is the chief factor in both scientific and religious "mental healing" but that the true scientist knows that it cannot be used as a cure-all. The author deals tenderly and admiringly with the work of the psychic researchers, differentiating spiritists from adherents to theories of telepathy. He avers that the psychic researchers deserve great credit for inspiration of scientific men: more than one of the four psychopathologists whom he ranks as the world's greatest have become interested in their present work through an early interest in psychic research. The work closes with an essay in appreciation of William James. In the reviewer's opinion the contribution to popular enlightenment made by this book is slight.

The psychoanalytic literature is voluminous. An extensive critique of the method of Freud is made by Kronfeld (13). The first 70 pages are devoted to an exposition of Freud's theory, following which is a detailed criticism of his principal assumptions and hypotheses on factual and logical grounds. Kronfeld asserts that Freud is guilty of *petitio principii* in assuming the truth of his hypotheses. Their validity, says Kronfeld, can be shown only by the correctness of the results obtained by the methods derived from the hypotheses; but there is no criterion of the correctness of the results, save the validity of the hypotheses by which they are to be interpreted. Bleuler (2) attacks the tendency of many of Freud's followers to overgeneralize, and particularly censures the efforts which members of that school frequently make to treat psychopathologically the experiences of poets, artists, etc. He regards Freud's doctrines of "unconscious thought-processes," sublimation, censorship, etc., as "not proven," and as more or less obscure. However, he expresses admiration for his general work, and recommends an open-minded attitude toward the Freudian tenets.

Burrow (5) and Kostyleff (12) have given brief conventional

descriptions of the work of Freud and Jung. Kostyleff has included in his article some comments on current criticism of Freud's doctrines. The danger of indiscriminate application of the psychoanalytic methods and of their use by the novice is pointed out by Freud (9, 7), while Putnam (15) urges the importance of clear metaphysical thinking in dealing with problems with which the method is concerned.

Brill (3) and Jones (11) have followed Freud (8) in the main in an attempt at psychopathological interpretation of experiences of every day life. All these communications follow the same general line of argument, but that of Jones is apparently the most extraordinary. His main thesis is that "certain inadequacies of our mental functioning, and certain apparently purposeless performances, can be shown by means of psychoanalysis to have been *determined* by motives of which we were not at the time aware." (Italics mine.) The "determining" factor is always a repressed wish, and some of the consequents determined by it are slips of the tongue or pen, erroneously performed reactions and "automatic" reactions; also, forgetting errands or names and "erroneous perception." Numerous incidents are cited, many being personal. The author's reason for saying that the repressed feelings "determine" these reactions, is that a train of free association, pursued far enough, will reach such an experience, which for the time had been forgotten. To the reviewer such reasoning *post, ergo propter hoc*, seems particularly treacherous. The metaphysical assumptions implied in such a thesis are also hard to reconcile with those which seem necessary to account satisfactorily for other experiences. In the reviewer's judgment, articles of this type emphasize the need of the sharpest distinction between the clinical and the logical aspects of the Freudian doctrines. Whatever clinical value the psychoanalytic methods may have should indeed be demonstrable by the records of the "thousands of cases" to which they have been applied. But that the doctrines are useful as clinical tools does not prove that they are logically consistent. And to the reviewer, at least, it is not yet evident that either therapy or psychology can be permanently benefited by theorizing on the basis of such generalizations as Freud, Jones and Brill use in these articles.

Acher (1) and van Teslar (17) have given abstracts of numerous recent publications on psychoanalysis, most of which are not mentioned in this review.

Frink (10), Rank (16), Nepalleck (14) and Wingfield (18) give accounts of the application of psychoanalysis to problems under their own observation. Their reports, however, are conventional.

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SPECIAL REVIEWS

CHAPTERS FROM MODERN PSYCHOLOGY

Chapters from Modern Psychology. JAMES ROWLAND ANGELL. New York: Longmans, Green, and Co., 1912. Pp. vii + 308.

This book contains eight lectures which Professor Angell delivered at Union College during the early part of the year 1911. As the lectures were prepared for presentation to a general college audience, they remain on the surface of the science. The entire field of psychology is sketched, but only those facts described which are necessary for a general idea of the subject. The style is of that clearness, fluency, and simplicity which we are accustomed to associate with the author, so that the book will not only interest the layman, but will afford the scientist several enjoyable hours.

The first chapter is upon General Psychology. It begins with a discussion of the methods of classification, then touches upon mental elements, instinct and impulses, reason, emotion, and will. It can give, the author says, "but an imperfect impression of the multifarious ways in which the energies of general psychology are engaged." Under the title Physiological Psychology are described the relation of mental to bodily processes, the dependence of mental experience on bodily organization, the relation of feeling to general somatic conditions, and the James-Lange theory of emotions. In Chapter III., on Experimental Psychology, experimentation in general is explained, and some typical experiences in audition, memory, association, and will are described. Abnormal Psychology considers dreams, hypnotism, suggestion, multiple personality, spiritism, telepathy and the subconscious. Chapter V. is divided into Individual and Applied Psychology. The first part includes individual differences in sensation and memory, types of imagery, attention, suggestion, reactions and emotion. In the second part, the usefulness of psychology for education, medicine, law, vocational guidance, and advertising is shown. In the chapter on Social Psychology, the author speaks of the psychology of language, play, and fine arts, the power of imitation and emulation, and the effect of a leader on mobs and crowds. In regard to race psychology, he says that the differences between races do not rest upon innate difference of brain structure but upon differ-

ence of environment and interest. The essay on Animal Psychology begins with the question of animal consciousness and intelligence. Descriptions of some well-known experiments follow. The last chapter, which is on General Genetic Psychology, refutes the theory that the characteristics of the savage are due to lack of reasoning power and efficiency in sensory activity. Their minds are not fundamentally different from those of civilized races nor do there seem to be important differences on the emotional side. "Mental evolution in man consists less in the accidental possession of higher native capacity and more in the better organization and the mastery of the technique of knowledge and thought." The chapter ends with a sketch of mental development in the individual.

HERBERT SIDNEY LANGFELD

HARVARD UNIVERSITY

JAMES' PHILOSOPHY

La Philosophie de William James. TH. FLOURNOY. Saint-Blaise, 1911. Pp. 219. Fr. 2.50.

In the spring of 1910 the *Association chrétienne suisse d'Etudiants* invited Professor William James to address them at their reunion to be held in the following October. Professor James, whose health was then seriously impaired, replied accepting the invitation "in principle," saying, that is, that should his health sufficiently improve and should he remain in Europe until October, he would gladly address the Association. The reunion was held, but William James was no more, and to Professor Flournoy fell the solemn honor of addressing the Association in his stead. For many years a warm friend and admirer of the profoundly lamented psychologist and philosopher, Professor Flournoy chose for the subject of his address "The Philosophy of William James." It is this discourse, amplified and doubtless somewhat revised, which now appears in book-form.

Professor Flournoy, and we can say it without exaggeration, has given us a work which is, although in concise form, a sympathetic and penetrating biographical sketch, a notable contribution to letters, and a commanding piece of philosophical reasoning. He sums up with extraordinary articulateness the broader tendencies of the late Professor James's teaching; and all in the spirit of James himself, sometimes almost with his own inflection, challenges, as it were, the coming generations to consider attentively this envisage-

ment of the universe and either to reject it for known and well-weighed reasons, or else to accept it with conviction and enthusiasm.

"By their works ye shall know them;" by their results in experience, alone, can values be weighed; or, in language more current, the sole test of truth—whatsoever its definition may be—or of any other value is found in empirical verification. Not a subversive doctrine, this: yet it is the touchstone to James's Pragmatism. This principle, which all natural science boasts of as its cardinal doctrine, from which indeed it takes the name empirical science, is nevertheless scouted as an absurdity when proposed as a general philosophic rule. "Morality estimated by its cash-value!" "The existence of God proved by the results experienced from believing in God's existence!" Yet the truth of not a single one of the laws and theorems of science is tested in any other way. The reason for this singular paradox is, if one compares the deeper-lying intention of James with that of his opponents, not hard to find. The effort of the day is mainly spent in the material sphere. Here we have so genuinely desired to achieve results that we have come down to the frankly humble attitude of empiricism. Here we admit that we get our truth *a posteriori*. In other spheres where the demand for actual—and certainly actual—results is by no means so stern, another tradition prevails; and one that is more gratifying to the familiar form of self-esteem. These truths we have *a priori;* or at least we can secure them in our hands without verification and safe from refutation, and so henceforth dispense them at our pleasure. And few persons genuinely care enough about these truths to examine this pretension. The maker of a printing-press is sharply held up if his factory has been playing with untruth: but the clergyman's account of God is scrutinized, if at all, with an eminent lassitude. Were the splendid pretension examined, James said, it would be found to be a fiction. For reality is the infinitely infinite flux of things and events, and its bigger truths can no more be embraced in a few off-hand formulæ, thought out in the rationalist's arm-chair, than can its truths about material things. In both cases alike we must test our "truths" by verifying them in subsequent experience. And one need be no pragmatist (need not, for instance, believe that Pragmatism includes a *definition* of truth) in order to see that that means of winning truth which has brought material science to the position which it now occupies must be applied in all other fields of activity if a similar success is to be achieved. James saw this. And a

thorough-going empiricism is one of his fundamental articles—Radical Empiricism.

Now this requires a rather curt dismissal of many cherished fancies: it involves, specially, the relinquishing of nearly all the products of the rationalistic movement of thought. For rationalism, as the term is used by James, covers any theory or system which is so remote from the concrete and infinite reality as to be insusceptible of empirical verification. If it can make no difference in subsequent experience whether a certain system is true or false, then (although it may be "internally consistent") the terms truth and falsity in no way so much as apply to it. Guided by this maxim James is a pluralist and not a monist. Furthermore, one needs but to loosen one's allegiance to certain ingrained prejudices of the day and generation in order to discover in that pure experience which empiricism makes its court of last resort, the immediate evidence of many facts to which one had previously been blind. And notable among these are the efficacy and freedom of the human will, the actual thereness of ungainsayable evil, and—for certain favored persons (unless your prejudices fortify you arbitrarily to throw out of consideration their life protocols)—the presence and coöperation of God. James believed, then, that what men do makes a difference in the universe, and that they might (if the word has any meaning at all) have done otherwise; that evil is there and is evil; and that God is, and is amenable to contact with human beings. These and other propositions, conceived as heretical in certain quarters yet derived by means of the same open-eyed empiricism, involve clearly an entire philosophy. Of all this Professor Flournoy takes a careful survey.

To many readers of this volume it will doubtless seem that the philosophical attitude of the late Professor James lacks a certain high impersonality and detachment, lacks the sort of thing that one finds in a treatise on elliptical functions and in the pages of approved dialecticians. This may be so; and the presence of a certain human warmth, above all James's acknowledgment that human volition plays a part in philosophizing, is highly repugnant to some philosophic traditions. Yet it is to be remembered that in the case of elliptical functions human will and human weal are no part of the subject under discussion; whereas in the case of the whole universe, which is the subject-matter of philosophy, man and all his concerns are integrally involved. They dare not be neglected. And if James writes as a man who as a man faces the problem of the

universe, as one who, shoulder to shoulder with others in his likeness, scans the quiet visage of the Sphinx, so too, after all, when one comes to think of it, the most impersonal chapter ever written upon the Absolute implies also a writer, but one who thinks to be in cloaked yet closest intimacy with this same Sphinx. This difference of attitude is worthy of note.

Professor Flournoy has admirably succeeded in revealing the deep springs of a sea whose surface, broad and flowing and reflecting light from a thousand facets, might well have beguiled the most resolute explorer. But he has done more, for he has somehow given us a glimpse once again of the immediate person, the charm, the motion, and the moral vigor of the late Professor James. It is a volume which lays the friends and pupils of William James under a deep debt of gratitude, and one which will give to coming generations some hint of what that privilege was which is not to be theirs.

EDWIN B. HOLT

HARVARD UNIVERSITY

BOOKS RECEIVED DURING JUNE

BOWNE, B. P. *Kant and Spencer. A Critical Exposition.* Boston and New York: Houghton Mifflin Co., 1912. Pp. xii + 440. $3.00 net.

GALLINGER, A. *Das Problem der objectiven Möglichkeit. Eine Bedeutungsanalyse.* Leipzig: Barth, 1912. Pp. vii + 126. M. 4

HENNIG, R. *Die Entwicklung des Naturgefühls.—Das Wesen der Inspiration.* Leipzig: Barth, 1912. Pp. 160. M. 5.

Vorschläge zur psychologischen Untersuchung primitiver Menschen. (Beih. z. Zsch. f. angew. Psychol. u. psychol. Sammelforsch.) Leipzig: Barth, 1912. Pp. 124.

HOCKING, W. E. *The Meaning of God in Human Experience. A Philosophic Study of Religion.* New Haven: Yale University Press; London: Frowde, 1912. Pp. xxxiv + 586. $3.00.

PARTRIDGE, G. E. *Genetic Philosophy of Education.* New York: Sturgis and Walton, 1912. Pp. xv + 401. $1.50 net.

JAMES, W. *Essays in Radical Empiricism.* New York: Longmans, Green, and Co., 1912. Pp. xiii + 283. $1.25 net.

NOTES AND NEWS

THE June number of the BULLETIN, entitled the Experimental Number, was prepared under the editorial care of Professor W. B. Pillsbury.

DR. DANIEL STARCH has been advanced to the rank of assistant professor at the University of Wisconsin.

J. CARLETON BELL, Ph.D. (Harvard), managing editor of the *Journal of Educational Psychology*, and director of the psychological laboratory in the Brooklyn Training School for Teachers, has been appointed professor of the art of teaching in the University of Texas. Dr. Bell will devote his attention chiefly to the experimental investigation of problems of teaching.

PROFESSOR WILBUR M. URBAN, of Trinity College, has been granted leave of absence for a year. The larger part of the time will be spent in study and investigation with Professor A. Meinong in Graz.

AT the eighty-first annual commencement of Wesleyan University at Middletown, Conn., held on June 19, the degree of doctor of laws was conferred upon Dr. Amos J. Givens, proprietor of Givens Sanitarium for nervous diseases at Stamford, Conn.

THE following items are taken from the press:

STEPHEN S. COLVIN, professor of psychology in the University of Illinois, has accepted a chair in educational psychology in Brown University.

HARRY MILES JOHNSON, Ph.D. (Hopkins '12), has been appointed psychological assistant in the physical laboratory of the National Electric Lamp Association, Cleveland, Ohio.

M. E. HAGGERTY, of Indiana University, has been promoted from an assistant professorship to an associate professorship of psychology.

THE University of California has conferred the doctorate of laws on Dr. E. C. Sanford, professor of psychology and president of Clark College.

PROFESSOR G. M. WHIPPLE, of Cornell University, has been granted a half year's leave of absence. He will make a study of the recent developments in applied and educational psychology in various educational centers of Europe.